English translation of the amended pages

of the description filed with the letter of

November 1, 2004 under PCT Article 34 (2)(b)

IN THE CLAIMS

Claim 1, line 4, "about" is deleted.

Claim 4, line 2, "particularly preferably" is deleted.

Claim 5, line 3, "particularly preferably" is deleted.

Claim 6, line 3, "preferably" is deleted.

Claim 8, line 3, "about" is deleted.

Claim 11, line 3, "more preferably" is deleted.

Claim 12, line 3, "particularly preferably" is deleted.

CLAIMS

1. A catalyst composition for the production of a poly(ethylene oxide) polymer which is a catalyst composition capable of producing a poly(ethylene oxide) polymer having a molecular weight range from about 20,000 to 200,000 by direct polymerization economically in a high yield, wherein the catalyst composition comprises component A: an organoaluminum compound and component B: at least one kind of an alkali metal alkoxide compound or an alkali metal hydroxide compound.

2. The catalyst composition as defined in claim 1, wherein the organoaluminum compound is a compound which has no Al-O bond and has an Al-C bond in the molecule.

3. The catalyst composition as defined in claim 1 or 2, wherein the organoaluminum compound is one or more kinds selected from the group consisting of a trialkylaluminum compound and a tricycloalkylaluminium compound.

4. The catalyst composition as defined in claim 3, wherein the trialkylaluminum compound particularly preferably is tri-isobutyl aluminum.

5. The catalyst composition as defined in any one of claims 1 to 4, wherein the alkali metal alkoxide compound

particularly preferably is potassium t-butoxide.

6. The catalyst composition as defined in any one of claims 1 to 4, wherein the alkali metal hydroxyl compound is preferably potassium hydroxide.

7. The catalyst composition as defined in any one of claims 1 to 6, wherein the component A is contained in an amount of 3 mol or more per mol of the component B.

8. A method for producing poly(ethylene oxide) by using a catalyst composition capable of regulating to a desired molecular weight within the range of from about 20,000 to 200,000, in which the catalyst composition comprising component A: an organoaluminum compound and component B: at least one kind of an alkali metal alkoxide compound or an alkali metal hydroxide compound is used and in which a poly(ethylene oxide) having a relatively narrow molecular weight distribution and a relatively low molecular weight, which poly(ethylene oxide) is characterized by a low polydispersity, is obtained by regulating the ratio of the component A and the component B in the catalyst composition.

9. The method for producing poly(ethylene oxide) as defined in claim 8, wherein the molar ratio of the component A in the catalyst composition is regulated to 3 mol or more per

1 mol of the component B.

10. The method for producing poly(ethylene oxide) as defined in claim 8 or 9, wherein the amount of the catalyst composition used is 0.1 to 5.0 mol% of an Al atom based on ethylene oxide.

11. The method for producing poly(ethylene oxide) as defined in claim 8 or 9, wherein the amount of the catalyst composition used is more preferably 0.2 to 3.0 mol% of an Al atom based on ethylene oxide.

12. The method for producing poly(ethylene oxide) as defined in claim 8 or 9, wherein the amount of the catalyst composition used is particularly preferably 0.4 to 1.5 mol% of an Al atom based on ethylene oxide.

ABSTRACT

Provided are a polymerization catalyst composition for ethylene oxide, which composition is capable of producing polyethylene oxide having a lower molecular weight and a molecular weight distribution within a relatively narrow range in comparison to conventional methods, and a method for the production of polyethylene oxide utilizing the catalyst composition. This catalyst composition is a catalyst composition capable of producing a poly(ethylene oxide) polymer having a molecular weight range from about 20,000 to 200,000 by direct polymerization economically in a high yield and is characterized by containing component A: an organoaluminum compound and component B: at least one kind of an alkali metal alkoxide compound or an alkali metal hydroxide compound. According to the present production method, it is possible to produce a poly(ethylene oxide) polymer having the above-mentioned molecular weight range by the use of a catalyst composed of the above-mentioned catalyst composition under polymerization conditions similar to those of conventional methods.